

ABSTRACT OF THE DISCLOSURE

5 A slot is interposed within an optical element to intercept a radiation path to increase the sensitivity of an in-line infrared sensor. The slot is perpendicular to the radiation path. The optical element is insertable directly in a process stream to determine an amount of absorption of a sample in the process stream. The optical element has a truncated cone or prism shape. Another method for increasing the sensitivity of an in-line infrared sensor comprises placing a prism in contact with a base of an optical element capable of causing a beam originating from a source to be internally reflected at least 10 twice through the optical element and terminate at a detector. The optical element is placed in a process stream. The prism, source, and detector are ninety degrees apart from each other and in contact with the base.